C.) Please amend the claims as follows:

1. (Currently amended) Scanning apparatus operable <u>for radiation</u> in the microwave, mm-wave and infrared ranges and comprising a support structure, a primary drum which is mounted in said support structure for rotation relative to the support structure about a central axis of the primary drum, said primary drum being hollow and internally polygonal to provide a plurality of internally presented sides or facets, which are capable of reflecting the radiation concerned, a radiation director disposed to direct radiation emanating from a ~~view~~ <u>field</u> of view of the apparatus, being a field of view which is fixed with respect to said supporting structure, [(] as opposed to rotating with the primary drum[)], onto the internally presented sides or facets of the primary drum, such that in each of a succession of line scanning periods, as herein defined, radiation emanating from part of said field of view is directed onto a said reflective side or facet of the primary drum to be reflected therefrom onto a further receiving assembly comprising a rotating faceted reflector, herein referred to as a secondary drum, arranged to reflect the radiation striking it from the first drum onto a radiation receiver or sensor, the apparatus being so arranged that the radiation from said field of view is focussed onto said radiation receiver or sensor and wherein said secondary drum is arranged to be rotated, about an axis parallel with the rotary axis of the primary drum, in synchronism with the latter, in such a way that, over said scanning ~~period~~ <u>periods</u>, radiation from substantially all of a respective said facet of the primary drum, or from substantially all of a predetermined region of such facet, can reach said receiver or sensor via said secondary drum.

2. (Currently amended) Apparatus according to Claim 1 wherein said [radiation detector includes a] stationary [focussing] mirror mounted within the primary drum is a focusing mirror.

3. (Currently amended) Apparatus according to Claim 1 wherein said radiation director includes, in addition to said stationary mirror, a stationary focusing lens [and a stationary mirror] mounted within the primary drum.

4. (Currently amended) Apparatus according to Claim 1 wherein said a radiation director includes a stationary mirror mounted within the primary drum and wherein said reflecting facets of the primary drum are constituted as focussing mirrors.

5.(Currently amended) Apparatus according to Claim [3] 2 wherein said reflective facets of the [first hollow] primary drum are polarisation-sensitive such that radiation polarised in one sense is able to pass freely through said facets from outside the drum to pass to said stationary mirror and wherein a quarter wave plate or Faraday rotator is located within said hollow primary drum in front of said stationary mirror, whereby the radiation, in passing to the stationary mirror via the quarter wave plate or Faraday rotator, has its polarisation rotated through 45°, the radiation being thereafter reflected from the stationary mirror back through the quarter wave plate or Faraday rotator so as to be polarised in an orthogonal sense to that in which it was admitted through the wall of the hollow primary drum, so that the orthogonally polarised radiation is reflected by a said facet of the primary drum and is reflected thereby onto said secondary drum, to be reflected, in turn, by the latter, onto said receiver or sensor.

6. (Cancelled)

7. (Currently amended) Apparatus according to Claim [6] 1 wherein a meniscus lens with the centre of curvature of its faces lying on said central axis of the primary drum is positioned adjacent said aperture in the focusing mirror so as to intercept the radiation reflected towards the secondary drum from the reflective facets of the [first] primary drum, before such radiation passes through such aperture, and to extend the focus to accommodate said secondary drum and [receiving element] receiver or sensor.

8. (Currently amended) Apparatus according to Claim 1 wherein a diverging optical element is positioned to intercept the radiation reflected towards the secondary rotary drum from the reflective facets of the primary drum such that, given a beam of radiation reflected from the primary drum and [intercepting the] intercepted by said diverging optical element and swinging through a given angle in a given time in correspondence with the scanning action of the apparatus as the primary drum rotates, the corresponding beam leaving the diverging optical element to strike the secondary drum swings through an angle, in said given time, which is a simple fraction of the first mentioned angle, [in said given time] and wherein the rate of rotation of the secondary drum is correspondingly slower than that of the primary drum , and the number of facets on the secondary drum correspondingly greater than in the primary drum.[, so that, over a said scanning period, radiation from substantially all of a respective said facet of the primary drum, or from substantially all of a predetermined region of such facet, can reach said receiver or sensor via said secondary drum and so that, over said scanning period, radiation from substantially all of a respective said facet of the primary drum, or from substantially all of a predetermined region of such facet, can reach said receiver or sensor via said secondary drum.]

9. (Currently amended) Previously presented) Apparatus according to claim 1 wherein different reflective facets of the primary drum are differently inclined to the rotary axis of the primary drum so that different said facets scan different bands or lines in the field of view, [(]such different lines being substantially parallel with each other but spaced apart perpendicularly with respect to the longitudinal direction of the lines[)], whereby the apparatus can generate a conventional, TV-type scanning raster as the primary drum rotates, the faces of the secondary polygon being correspondingly inclined with respect to the rotary axis of the secondary drum to remove any deviation of the beam arriving at the receiver or sensor, to ensure that, despite such variations in inclination of the facets of the primary drum, the beam of radiation arriving at arriving at the receiver or sensor does so with a fixed orientation.

10. (Previously presented) Apparatus according to claim 1 wherein the picture information for at least two different lines of the scanned image is provided by respective radiation receivers or sensors spaced apart in a direction perpendicular to the direction of line scan, and each receiving radiation from a respective elevation in the field of view relative to said support structure.

11. (Currently amended) Apparatus according to any preceding claim wherein the picture information for each line of the scanned image [may] is provided by a respective radiation receiver or sensor in an array of such receivers or sensors, each receiving radiation from a respective elevation in the field of view relative to said support structure.